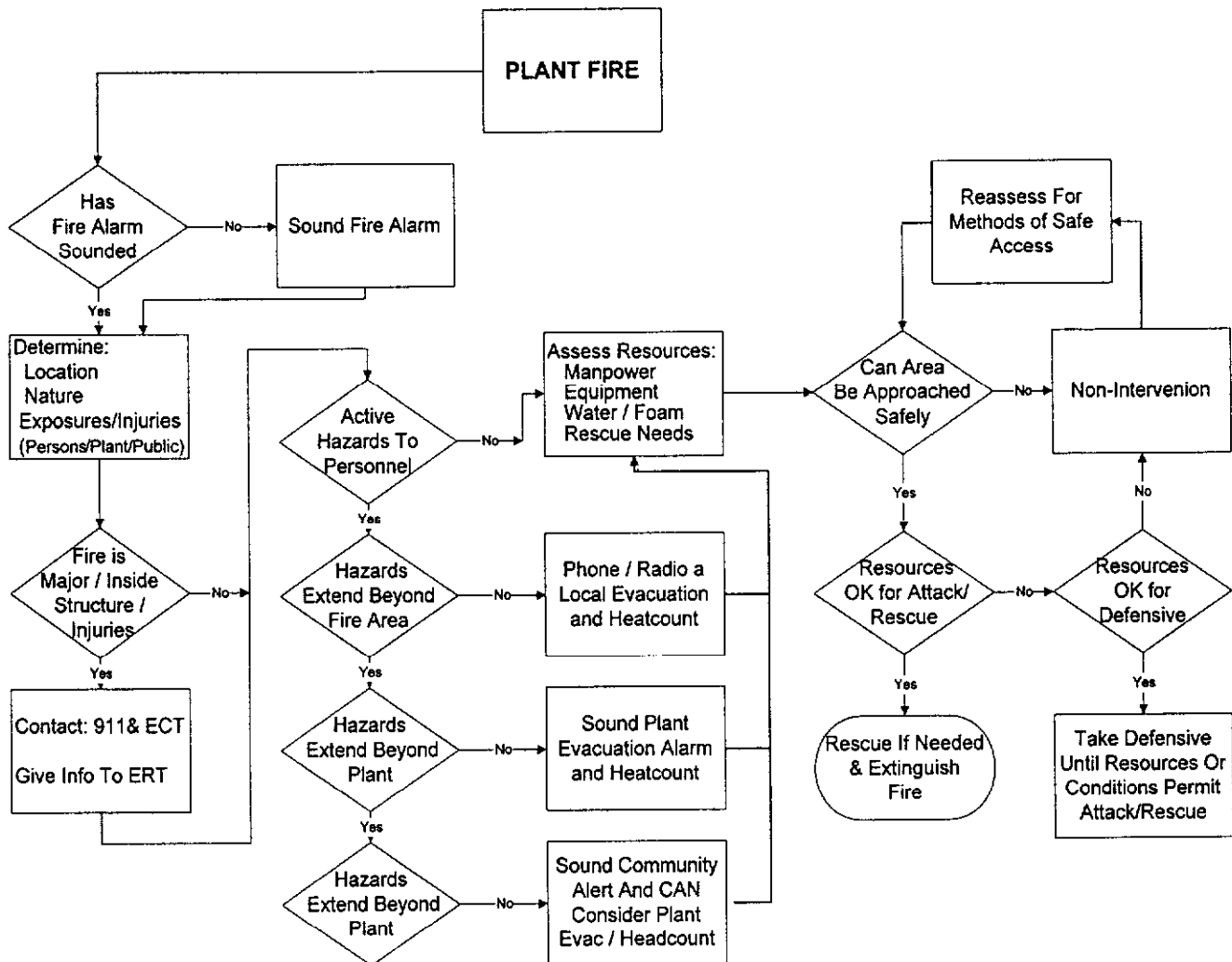


Section III – Annex 10 – Incident Specific Pre-Plans

Fire / Explosion Pre-plan



Fire / Explosion Pre-plan

1. For active fires or an explosion, activate the *Emergency Operations Center* EOC at Level 2 or 3.
2. ECT personnel should refer to the attached flow chart to assess and understand the preliminary stages of a fire response. From this chart, the ECT will be better able to provide the information and support needed to assist the Emergency Response Team (ERT) in establishing their tactical objectives.
3. Upon detection of a fire, the plant fire alarm must be sounded to alert the plant and initiate assembly of ERT personnel at the plant fire truck house. As ERT members arrive at the fire truck house, they will perform the following preparatory functions:
 - Don bunker gear and prepare SCBA for service.
 - Assign an Officer for that response based on ERT seniority.
 - Monitor radio traffic on channel 1 for details of the emergency
 - Plan for safe approach and size-up of the incident.
 - Assess additional equipment that may be needed based on preliminary information.
4. Personnel responding will attempt an upwind approach with good access to water and escape routes. A tactical plan will be developed according to information obtained from the ECT and field size-up. Tactical assignments will be made based on the following priority.
 - Provide for the safety of responders
 - Provide for safety/rescue of employees
 - Protect/Isolate exposures and the environment
 - Contain the Fire
 - Extinguish
 - Overhaul
5. Specific fire pre-plans will be used to the extent possible but deviation from plans may be necessary to best meet tactical objectives. These changes will be initiated by the Incident Commander or the Operations Officer but must be clearly communicated to field personnel before implementation.

Earthquake Pre-plan

- ❑ Activate the *Emergency Operations Center* EOC at Level 2 or 3
- ❑ Because of the potential for a total area-wide communication outage, all members of the Sauget *Emergency Coordination* (ECT), *Emergency Response* (ERT) and *Crisis Communication* (CCT) teams as well as operations supervisors are to report to the plant as soon as possible.
- ❑ Direct emergency relief efforts towards the following priorities:
 - ✓ Scene control and process isolation
 - ✓ Rescue of victims
 - ✓ Conservation of property and environment
- ❑ Suspend all operations and discontinue all hazardous materials transfers until a full damage assessment can be made. Close / isolate valves on storage tanks and chemical transport equipment. Hazardous materials include:
 - Chlorine
 - Sulfur Monochloride
 - Isobutylene
 - NaHS
 - Triethylamine
 - Maleic Anhydride
 - Ammonia
 - Carbon Disulfide
 - Hydrogen Peroxide
 - Hydrazine
- ❑ Isolate all natural gas pipelines in the plant until they can be inspected. A schematic of the plant *Natural Gas Distribution System* is provided in Annex II. Illinois Power (IP) provides natural gas to the meter located on the south side of the plant, and to the meter located on the east side of the plant. The boilers are supplied by a private line owned by Industrial Steam Products (ISP). This line is fed from the MRT-East transport line.
- ❑ Isolate areas of downed electrical lines and energized equipment.
- ❑ Continue to manage the incident in accordance with normal plant emergency response procedures (See Section II – Core Plan; Section III, Annex 3: Response Management System)

Tornado / Severe Weather Pre-plan

- ❑ Plant Security will monitor the weather band radio during inclement weather for severe storm warnings, tornado watches and tornado warnings.
- ❑ If a tornado warning is issued by the National Weather Bureau for St. Clair County, Security will radio all Units, the Off-Shift Supervisor and the Daytime Emergency Coordinator (DEC).
- ❑ The Off-Shift Supervisor and/or the Daytime Emergency Coordinator will:
 - ✓ Activate the *Emergency Operations Center* at Level 1
 - ✓ Notify all plant personnel via plant radio, channel 1, of the tornado warning
 - ✓ Initiate Shelter-in-Place procedure
- ❑ All operating units will stop hazardous materials transfers and close / isolate valves on storage tanks and chemical transport equipment. Non-critical process will be placed in "Hold". Hazardous materials include:
 - Chlorine
 - Sulfur Monochloride
 - Isobutylene
 - NaHS
 - Triethylamine
 - Maleic Anhydride
 - Ammonia
 - Carbon Disulfide
 - Hydrogen Peroxide
 - Hydrazine
- ❑ Security will contact OSS or the DEC once the warning is lifted. The OSS or DEC will notify all plant personnel to resume normal activities.
- ❑ Stop all hazardous materials transfers and close / isolate valves on storage tanks and chemical transport equipment. For the purpose of this procedure, hazardous materials include:
 - Chlorine
 - Sulfur Monochloride
 - Isobutylene
 - NaHS
 - Triethylamine
 - Maleic Anhydride
 - Ammonia
 - Carbon Disulfide
 - Hydrogen Peroxide
 - Hydrazine
- ❑ In the event tornado or severe weather strikes the Sauget plant, activate the EOC at Level 2 or 3 and

Section III – Annex 10 – Incident Specific Pre-Plans

follow normal plant emergency response procedures (See Section II Core Plan and Section III, Annex III – Response Management Procedure)

Bomb Threat Pre-plan

Checklists: Bomb Threat Call Checklist (attached)

IMPORTANT NOTES:

- ✓ **DO NOT use plant radios. All communications in this procedure will be by telephone or face to face.** Most modern detonators are sensitive to radio frequencies.
- ✓ Terrorist devices can be made of ordinary materials and contain many types of hazards (i.e. explosives, radiological materials, biological / etiological agents, etc.) **Never open or disturb a package or devices suspected of containing a terrorist device.**

PHONED THREAT

Day Shift

1. Bomb threats may be phoned into any plant employee; however, the most likely person to receive such calls is plant Security Office.
2. Security officer or employee who receives a bomb threat shall immediately contact: **2222** and report the threat.
3. The Q. C. Lab will notify the Daytime Emergency Coordinator (DEC) according to the plant emergency coordination procedures (See Section 2: Core Plan) If the DEC is unavailable, contact the following backups:
 - a. Health, Safety and Environmental Affairs Manager, or
 - b. Safety Manager, or
 - c. Plant Manager
4. The employee receiving the threat must complete the *Bomb Threat Checklist* located at the end of this section. Security has copies of this form.
5. The DEC will contact 9-1-1 and request assistance from Sauget police and St. Clair County ESDA. The DEC will also activate the EOC at Level 1 and notify the Emergency Coordination Team.
6. ECT shall notify all units / departments of the bomb threat by telephone or in-person and instruct them to discontinue all radio use.
7. Evacuate the plant using the plant Evacuation Procedure (Annex 12) however, DO NOT sound the plant disaster signal to initiate the evacuation. Headcount procedure will be done via telephone or in-person. Employees should look for a Headcount Coordinator at each assembly point.
8. The Emergency Coordination Team will consult with responding officials (i.e. local & State Police, ESDA, IEMA) as to the appropriate course of action. If a search for the device is necessary, the plant Incident Commander is responsible for assigning employees to assist outside responders in their search.

9. If nothing is found, the Incident Commander will decide when employees can re-enter the plant.

Off-Shifts

1. Security will notify the 2222 of the bomb threat. The lab will notify O.S.S.
2. O.S.S. will activate the EOC at Level 2 and immediately contact the Units and Maintenance shop by telephone advising them of the threat. O.S.S. will order the Units to perform emergency shutdown and evacuate the plant.
3. The O.S.S. will then notify the following:
 - 9-1-1
 - Emergency Coordination Team (ECT)

(Sending a group I-Page may activate the ECT or by using the Community Alert Network system "CAN". See Section III, Annexes 2 and 13 or call individually.)

4. Security will deny entry into the plant until local responding officials and the Emergency Coordination Team (ECT) arrives.
5. Responding officials and the ECT will assemble in the Off-Shift Supervisor's office to discuss appropriate course of action. If a search for the device is necessary, the plant Incident Commander is responsible for assigning employees to assist outside responders in their search.

Note: If the device is reported to be in the Administration building, then all ECT members / local responding officials will assemble in the Secondary EOC located in the Unit 290 control room.

6. If nothing is found the Incident Commander will decide when to allow employees to re-enter the plant.

MAILED THREAT / SUSPICIOUS OBJECTS

1. All suspicious and unidentified articles, whether mailed or observed in the work area, shall be treated as potentially dangerous devices.
2. Do NOT touch the package or device. Leave the area immediately.
3. Dial 2222 on plant telephone and report the device.
4. Follow the above procedures for "Phoned Threat".

Medical Emergency Pre-plan

1. All plant emergency victims requiring first aid treatment should be brought to the designated First Aid Center in the Administration Building. Use the North entrance marked "Medical Department".

(NOTE: In the event of a death, the victim must not be moved until the Coroner grants permission. (See *Sauget Policies and Procedures Manual*, "Death on Company Premises" procedure for details.)

2. The First Aid (Triage) Coordinator will classify and tag victims as Class I, II, III or IV cases.
3. Distribute Disaster tag forms as follows:
 - ☐ Yellow copy: Incident Commander or designee
 - ☐ White copy: Triage Coordinator
 - ☐ White Treatment copy: Attach to Victim

4. Transport victims to following areas based on classification:

<u>Victim Classification</u>		<u>Treatment Location</u>
Class I	Urgent	Medical Department – Admin Bld.
Class II	Semi-Urgent	Medical Department – Admin Bld.
Class III	Ambulatory or Minor	Conference Room B – Admin Bld.
Class IV	Little Chance of Survival	Medical Department – Admin Bld.

5. The First Aid Team will treat victims according to their Triage classification. Class I injuries will be treated first followed by Class II and III injuries.
6. Ambulances will stage and pick-up patients at the base of the ramp at the entrance to the Medical Department (Northwest corner of the Administration Building)

Next of Kin Notification

(NOTE: If the emergency involves large numbers of injured, consider activating the Crisis Communications Plan (CCP). The CCP contains detailed procedures for tracking injured and notifying families).

1. The Area Manager is responsible for contacting kin regarding injuries to employees.
2. Names of injured employees **shall not be** given to the news media prior to notification of next of kin.
3. A list of "Emergency Contacts" for all employees is maintained by the Human Resources. Bound copies are located in:
 - ☐ HR Manager's office
 - ☐ HR Technician's office
 - ☐ Off-Shift Supervisor's office (Primary EOC)
 - ☐ Plant Manager's secretary office

4. The Plant Nurse/Lab Technicians are responsible tracking which hospital the injured employees were

sent.

5. The Operations Manager and/or designated member of the Emergency Coordination team member is responsible for providing the hospital follow-up information on the victim and supporting information that could assist the hospital treat the victim (i.e. MSDS sheets, etc.).

Definitions

Triage - Triage is a French word that means "to sort". When applied to trauma, triage is a means of providing the greatest good for the greatest number. Whenever more than one injured person is encountered, a decision must be made about the priority of the care.

In triage care, patients are divided into four categories: Class I (P-1) - immediate; Class II (P-2) - semi-urgent; Class III (P-3) - ambulatory or minor, and Class IV (P-0) - little chance of survival.

Class I Victims - must be treated within a few minutes or else death or further injury will result. This category would include patients with respiratory insufficiency or arrest, acute cardiac failure or arrest and severe hemorrhage and/or shock.

Class II Victims - have serious but not immediate life-threatening injuries. Examples would include major fractures without shock, facial fractures without airway problems, eye injuries, etc. These patients require definitive treatment within a period of 30 minutes to two hours.

Class III Victims - are ambulatory patients with minor injuries apparent. These patients may have lacerations or abrasions and be somewhat dazed. A physician should check them but their care can wait until more serious patients have received medical attention.

Class IV Victims - patients with injuries so massive that their chances for survival, even with immediate and maximal care, would be slim. This classification is only used in massive disaster situations.

First Aid Center - The Medical Department is the designated First Aid Center in the event of an emergency requiring plant evacuation.

- The South Parking Lot is designated as the alternate First Aid Center if the Administration Building is unsafe to enter.

First Aid Coordinator - The plant nurse will be the First Aid Coordinator in the event of a plant emergency requiring extensive first aid treatment.

The nurse will:

1. Assign first aid care responsibilities to members of First Aid Team; and
2. Classify victims' injuries into Classes I to IV.

A Quality Control Laboratory Technician will act as First Aid (Triage) Coordinator in the event that the plant nurse is not available (evenings or weekends).

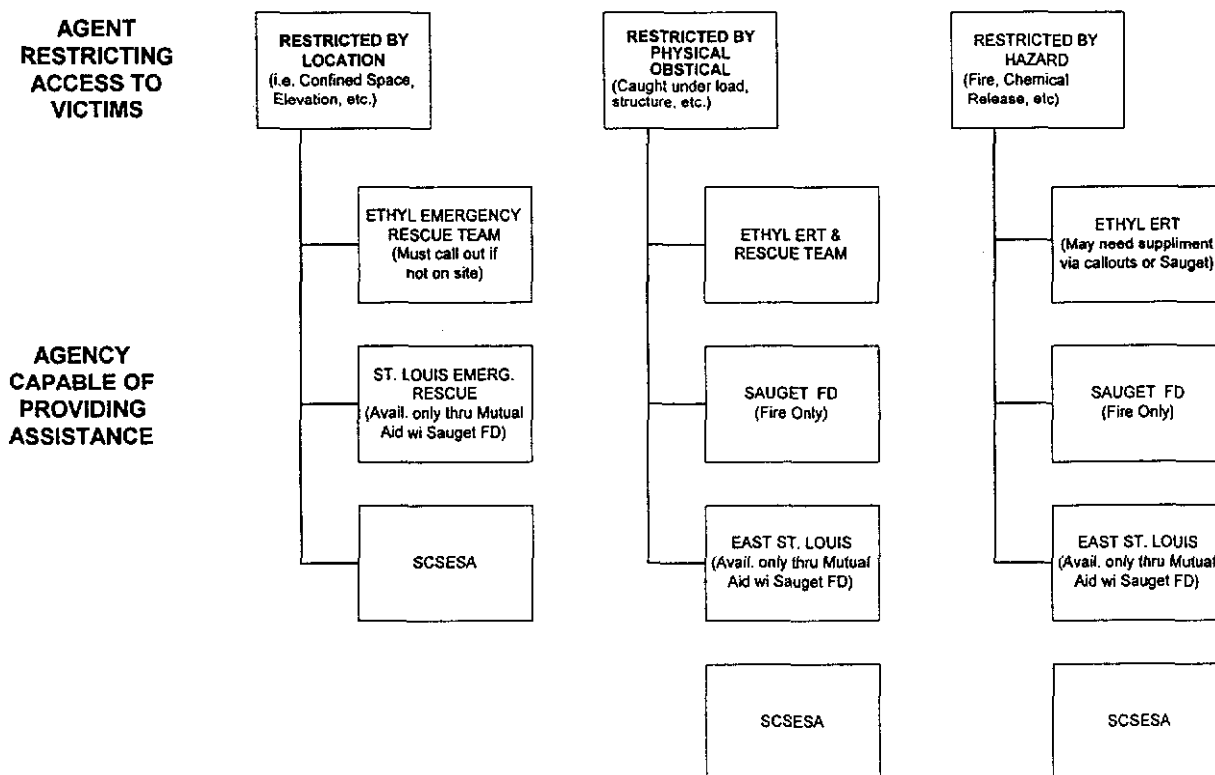
First Aid Team - Quality Control Laboratory Technicians on rotating shift assignments and all Off-Shift Supervisors are trained in First Aid procedures. These personnel are designated to dispense first aid assistance in the event of a plant emergency.

Emergency Rescue Pre-plan

Should personnel become trapped physically or by location in a manner that threatens immediate physical harm or limits access to needed medical assistance, it will be necessary to mobilize personnel with appropriate training to rescue personnel from the hazardous environment. Examples where special rescue needs exist could include being trapped in confined spaces, on elevated structures, by a fire or chemical release, from equipment failure, structural collapse, etc.

Before rescue is attempted, there must be adequate personnel and equipment on hand to insure the safety of victims and rescuers. In the case of confined space entry and flare tower access, these needs are assessed prior to performing the job and adequate equipment and personnel are assigned based on hazards and safety procedures. For events occurring with less warning without a preplan or preassigned response personnel, it will be necessary for the ECT or responders in the field to determine rescue strategies.

The following flow chart should be considered in determining options for emergency rescue assistance:



Chemical Release Pre-plan

In the event of a chemical vapor release:

- ☐ Initiate the plant emergency notification system – Dial 2222
- ☐ Isolate the area around the leak. Keep unauthorized persons out of the area.
- ☐ Identify material being released. Estimate the quantity and duration of the release.
- ☐ Shelter-in-Place or Evacuate the affected area of the plant, if necessary. Initiate Head Count Procedure
- ☐ Sound Community Alert Siren and/or Community Alert Network (CAN) system if necessary.
- ☐ Make necessary internal and external notifications (See Section II: Core Plan and Section III, Annex II: Notifications)
- ☐ Activate the Emergency Operation Center at the appropriate response level
- ☐ Assess the problem and develop strategic and tactical plans for stopping the release
- ☐ Implement the tactical plan to mitigate the incident. Consider vapor suppression tactics, runoff control, and downwind exposure monitoring as part of the tactical plan.
- ☐ Terminate the incident; include follow-up debriefings, critiques and notifications to community and persons off-site
- ☐ Clean up the affected area
- ☐ Perform post-incident investigation

In the event of a major chemical spill:

- ☐ Initiate the plant emergency notification system – Dial 2222
- ☐ Isolate the area around the leak. If possible, dike or divert the spill to keep material from entering the sewer openings. Keep unauthorized persons out of the area.
- ☐ Identify material being released. Estimate the quantity and duration of the release.
- ☐ Shelter-in-Place or Evacuate the affected area of the plant, if necessary. Initiate Head Count procedure
- ☐ If material has entered the sewer, immediately contact the POTW (See Section III; Annex 2: Notifications)
- ☐ If persons off-site are impacted by the spill, consider sounding the Community Alert Siren and/or Community Alert Network (CAN) system.

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- ❑ Make all other necessary internal and external notifications (See Section II: Core Plan and Section III, Annex II: Notifications)
- ❑ Activate the Emergency Operation Center at the appropriate response level
- ❑ Assess the problem and develop strategic and tactical plans for stopping the spill.
- ❑ Implement the tactical plan to mitigate the incident. Consider vapor suppression tactics, runoff control, and downwind exposure monitoring as part of the tactical plan.
- ❑ Terminate the incident; include follow-up debriefings, critiques and notifications to community and persons off-site.
- ❑ Clean up the affected area.
- ❑ Perform post-incident investigation.

Odor Complaint Pre-plan

Form: Emission / Odor Complaint Form (attached)

Respond to emission or odor complaints from neighboring communities or plants in the following manner:

- ☐ Security will contact the HS&E Department (days) or the Off-Shift supervisor (off-hours) by radio for all complaints received.
- ☐ Person receiving the call in HS&E Department will record information on the *Emissions/Odor Complaint Log* form (attached) and contact the appropriate Area Manager or Unit Supervisor. They will investigate their units for a possible source of emission. During the off-shift, OSS will investigate for the possible source of emission.
- ☐ If an emission source is discovered, the determine the following:
 1. Is emission of sufficient quantity and risk to the community to necessitate sounding the Community Alert Siren and Community Alert Network (CAN) systems? If yes, activate these systems.
 2. Is the emission a CERCLA / SARA compound released above its RQ? (See Reportable Quantities, RQs, listed below) If yes, immediately notify HS&E for further instructions.
- ☐ If an emission source is discovered, stop the release if possible.
- ☐ Return call to person(s) making the complaint with a status update.
- ☐ If the off-site odor is originating from the Sauget plant, certain "courtesy" notifications must be made. Refer to Section 3, Annex 2: *Notifications* for phone numbers. Persons to notify if include:
 - ☐ Neighboring plants / businesses
 - ☐ East St. Louis ESDA
 - ☐ Cahokia ESDA
 - ☐ St. Clair County ESDA

Hazardous Waste Spill/Release Pre-plan

Purpose

To address those actions to take in response to a release of hazardous waste or hazardous waste constituents.

Hazardous Wastes Generated

The following hazardous wastes are routinely generated on site:

<u>Chemical</u>	<u>Hazard</u>	<u>Generated</u>
Hitec 511 Condensate (Dicyclopentadiene)	Ignitable	Unit 267 Hitec 511 production
Hitec 059 Condensate (Naphtha Drain)	Ignitable Corrosive	Unit 267 Hitec 059 production
Hitec 631 Filter Cake	toxic (Barium)	Unit 270B Hitec 631 production
Lab Solvents	Ignitable, Toxic, Listed (Solvents)	Quality Control Lab cleaning of glassware/ product analysis waste
Lab Waste from TBN Analysis	Corrosive Ignitable	Quality Control Lab laboratory analysis
N-Butyl alcohol condensate	Ignitable	Unit 268 X-5120 production
Phosphorus pentasulfide	Ignitable Water Reactive	Unit 266, Unit 270B Raw material

Hazardous Waste Storage

There are three hazardous waste storage areas on the Sauget plant. The primary storage area is located north of the project storage shed (Building NO). A secondary waste storage pad, used only to store lab waste solvents, is located at the north end of the laboratory building (Building NU). A third accumulation area is in Unit 270B and is only active during Hitec 631 production campaigns.

Storage areas are diked for spill containment purposes. The primary storage is also equipped with a sump to contain spilled material.

Spill Response Procedure

- Initially the primary "Emergency Coordinator" responsible for response to hazardous waste spills will be:

1. Days: Daytime Emergency Coordinator (DEC)
2. Off-Shifts: Off-Shift Supervisor

The "Emergency Coordinator" function may be passed off to other qualified individuals in accordance with the procedures outlined in this ICP. The Incident Commander is responsible for assuring that all "Emergency Coordinator" duties as specified below are completed as part of the management of any hazardous waste emergency.

- ❑ The names, addresses and telephone numbers of these individuals and other responsible personnel are listed in Section III – Annex 2 of this manual.
- ❑ In the event of any release, fire or explosion involving hazardous waste, the Emergency Coordinator must identify the character, source, amount and extent of the release and must assess possible hazards to health or the environment. This will be done in accordance with normal plant emergency procedures (See Section II: Core Plan)
- ❑ **Small Leak:** In response to a small leak or spill which is contained at the storage area and which does not present a threat to employees or the environment, the Emergency Coordinator or his designee shall direct appropriate plant personnel in the proper recovery and cleanup of the spilled material.
- ❑ **Large Leak/Release:** In an imminent or actual emergency, the Emergency Coordinator or his designee will activate internal alarms to notify all facility personnel, then should contact appropriate state or local agencies if their help is required.
- ❑ If the Emergency Coordinator determines that the release could threaten human health or the environment outside the plant, he must report his findings as follows:
 1. If evacuation of local areas is advisable, the Emergency Coordinator must immediately activate the community alert siren, Community Alert Network (CAN) and notify appropriate local authorities.
 2. The Emergency Coordinator must immediately notify the National Response Center at (800) 424-8802. The report must include:
 - The name and address of the reporter
 - Name and address of the facility
 - Time and type of incident
 - Name and quantity of materials involved
 - Extent of injuries
 - And the possible hazards to human health or the environment outside the facility.
- ❑ During the emergency, the Emergency Coordinator must take all reasonable measures necessary to ensure that fires, explosions or releases do not recur or spread to other areas of the plant. If it is necessary to stop operations in response to an emergency, the Emergency Coordinator must monitor for leaks, pressure, buildup, gas generation or ruptures in valves or piping, wherever this is appropriate.
- ❑ Immediately after the emergency, the Emergency Coordinator must provide for treating, storing or disposing of recovered waste, contaminated soil or contaminated water that results from the release. All

contaminated material recovered following a release of hazardous waste must also be handled as hazardous waste.

- Following any emergency incident involving hazardous waste, the Emergency Coordinator must record the time, date and details of the incident. Within 15 days after the incident, he must submit a written report to the IEPA. This report must include:
 - Name, address and telephone number of the owner
 - Name, address and telephone number of the facility
 - Date, time and type of incident
 - Name and quantity of materials involved
 - Extent of injuries
 - Assessment of actual or potential hazards to human health or the environmental estimated quantity and disposition of recovered material that resulted from the incident.

Emergency Equipment - Communications and Alarms

(See Section II – Core Plan and Section III, Annex 2: Notifications)

Emergency Equipment – Response Equipment

(See Section III Annex 11: Emergency Response Equipment / Resources)

Plant Intruder / Employee Disturbance Pre-plan

Intruder

1. Immediately notify the Off-Shift Supervisor (1254) and plant security (Radio Channel 1) that there is an intruder on the premises. Give the following information:
 - ☐ complete description of intruder (physical characteristics/clothing)
 - ☐ location of where the intruder(s) was sighted
 - ☐ direction in which the intruder(s) was heading.
2. Proceed to the nearest secure area.
3. Security will immediately call the Sauget police to respond to the plant. If Security is on rounds, the Off-Shift Supervisor will make the call. Upon sighting, Security will immediately report back to their post if on rounds.
4. The off-shift supervisor will notify all plant personnel via the plant radio that there is an intruder in the plant. All personnel should remain in their respective control rooms, lab, or shop.
5. **Under no circumstance should an Ethyl employee attempt to detain or contact the intruder.**
6. When the police have secured the plant, the Off-Shift Supervisor will notify all plant personnel via the radio that the intruder has been removed from the plant and normal activity can resume.
7. Security will document the incident on the "Incident Report" form and distribute according to procedure.
8. Area of breach will be immediately surveyed after incident by Security for any necessary repairs and or improvements required. Appropriate personnel will be notified of any such needed requirements immediately following survey.

Employee Disturbance / Workplace Violence

1. Immediately Dial 2222 or use Radio Channel 1 to report the disturbance or workplace violence in progress. Give the following information:
 - ☐ Name of employee
 - ☐ Description of event
 - ☐ Location of employee
 - ☐ Direction in which the employee(s) was heading.
 - ☐ Your location
2. Proceed to the nearest secure area.
3. Q.C. lab will notify Security, the Daytime Emergency Coordinator (days) or the Off-Shift Supervisor.
4. Security will immediately call the Sauget police to respond to the plant. If Security is on rounds, the Off-Shift Supervisor will make the call.

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5. Security or Off-shift Supervisor will notify all plant personnel via the plant radio of the disturbance. Personnel should secure respective control rooms, lab, or shop or proceed to the nearest secure area.
6. **Under no circumstance should an Ethyl employee attempt to detain or contact the violent employee.**
7. When the police have secured the plant, the Daytime Emergency Coordinator or Off-Shift Supervisor will notify all plant personnel via the radio that the incident is terminated. Employee Headcount will be initiated at this time.

Utility Outage Pre-plans

ELECTRICAL

Emergency Electrical Disconnect Procedure

Substations

It may be necessary to shutoff power to affected substations in the plant during a plant emergency. Power to substations 101, 102 or 107 can be shutoff from substation 100. At Substation 100:

- ☐ Locate the RED tag on the breaker panel;
- ☐ Pull out on the handle;
- ☐ Turn to trip.

This will open the circuit and cut off the power to the selected substation.

Entire Plant

If is necessary to shutoff power to the entire plant:

- ☐ In substation 100, locate the two main breakers (identified with red tags) in the middle breaker panel.
- ☐ Locate the "tie breaker" underneath the main breakers
- ☐ Trip tiebreaker. This will prevent power from flowing to the opposing main breaker as you shut them down one at a time.
- ☐ If time allows, call Union Electric and let them know that power is being shutoff to the facility. Use the phone and the number listed in substation 100.
- ☐ After opening the tiebreaker, trip the two main breakers one at a time.
- ☐ Call Union Electric and let them know the power is off. Notify the UE dispatcher prior to re-establishing power.

Electrical Power Outage

Two 13,800-volt lines feed the Sauget plant from Union Electric: labeled 374-57-1 and 374-64-1. These lines tie together in Substation 100. A single line can carry the entire plant load safely. These incoming lines are equipped with circuit breakers which sense reverse current flow through them. If reverse current flow occurs due to a ground on one of the incoming lines, that particular line will be isolated from our system by the circuit breaker. If this circuit breaker fails to operate, the load on the other feeder will become too high and will cause it to trip out. This will cause a plant-wide power outage. If both feeders become damaged, the plant would experience a total electrical shutdown.

1. If the plant loses total electrical power, activate the EOC at Level 1 and contact the Emergency Coordination Team (See Section 2: Core Plan and Section 3, Annex 2: Notifications. **Do not** sound the disaster (evacuation) alarm. On *electrical failure*, the plant whistle will NOT function.
2. Since the air compressors, boiler feed pumps, and boiler air blowers are driven by electricity, the plant will lose instrument air, plant air, and steam. Instrument air and steam are critical to plant operations.
3. During a total power outage, the plant telephone system operates on a DC (battery) backup, which

provides sufficient power to operate the system for approximately eight hours.

4. Equipment in the primary Emergency Operations Center (Off-shift Supervisor's office) including the SAFER system and Community Alert Siren also operates under a backup power supply. This battery backup will last approximately 1.5 hours under full load and 4 hours under half load. If power is expected to be down for more than one hour, the gasoline powered generator located outside the West end of the Administration building should be used.
5. Initiate Unit and Lab emergency procedures during power system failures.
6. Before power is brought back on, notify all units so that the reactors are brought on line slowly. Immediate restoration of power can cause over-reactions, blow rupture discs and cause emissions.

Emergency Operations Center (EOC) Uninterruptable Power Supply and Emergency Generator

The Off-Shift Supervisor's office has a backup power supply capable of operating the equipment in that office (isolation receptacles, Safer System, CCTV's) as well as the fire alarm panels / repeater radio (channel 2) in the Q.C. laboratory building in the vent of a power failure. The UPS also supplies backup power to the gate card reader. Following are operating instructions for that system:

1. While AC power is on, the green pilot light "NORMAL POWER ON" is illuminated on the OSS Emergency Power Alarm Cabinet.
2. While the UPS system is operating under normal conditions, the green AC LINE & READY indicators will remain lit. The batteries are kept continuously charged by the system and the green CHARGING indicator will normally be off most of the time. The BATTERY POWER & ALARM indicators should remain off. If the ALARM indicator is lit and remains lit, then servicing the UPS unit will be required.
3. Loss of AC power causes the green pilot light "NORMAL POWER ON" to go out and the red pilot light "EMERGENCY POWER ON" is illuminated on the OSS Emergency Power Alarm Cabinet. An audible alarm also sounds.
4. The audible alarm may be silenced by pushing the "acknowledge" pushbutton on the OSS Emergency Power Alarm Cabinet. Check the circuit breaker feeding the UPS system to see if it has tripped and needs to be reset. The breaker is located inside the electrical closet room #190, adjacent to the west entrance door of the building, in power panel #PP2 SECTION #2 circuit #72.
5. When AC power fails, the UPS system is operating under emergency conditions, the BATTERY POWER & ALARM indicators will remain lit. The AC LINE, READY & CHARGING indicators should be off.
6. The batteries are expected to last approximately 1 hour 41 minutes under full load or 4 hours 3 minutes under half load. If the AC power has been out for 30 minutes or more, place the portable gasoline powered generator in service.
7. Position the generator outside the west entrance door of the Administration Building.
8. Check the oil and gasoline levels in the generator. The fuel capacity of the generator is 6.5 gallons

which is adequate for 13 hours of operation at full load.

8. Before starting the generator, make all electrical connections as noted below and as stated on the "OPERATING PROCEEDURE" plaque on the west (outside) wall of the Administration Building adjacent to the Emergency Power Disconnect Switch.
 - ✓ PLACE "OSS OFFICE EMERGENCY POWER DISCONNECT" (OUTSIDE BLDG) IN THE OFF POSITION.
 - ✓ PLUG GENERATOR CABLE INTO (disconnect) RECEPTACLE AND GENERATOR.
 - ✓ POSITION "OSS OFFICE EMERGENCY POWER TRANSFER SWITCH" (INSIDE BLDG. - located inside the electrical closet, room # 190, adjacent to the west entrance door) TO "EMERGENCE POWER" POSITION.
 - ✓ START GENERATOR.
 - ✓ PLACE "OSS OFFICE EMERGENCY POWER DISCONNECT" (OUTSIDE BLDG) IN THE ON POSITION.
9. The OSS office is now operating on generator power.
10. When normal power has been re-established and confirmed, follow the procedure in reverse order to place system back in normal status.

PLANT / INSTRUMENT AIR

Air Failure

1. On *air compressor* failure, the plant whistle will function only until the reserve air tank runs empty. This is about one cycle of the "disaster" alarm.
2. A number of sprinkler systems will trip on compressor failure causing the diesel fire pumps to start. The fire pumps may also start in the event the jockey pump quits running. Leave one diesel pump on during the power outage / air system failure. Utility operators monitor the fuel supply for the diesel pumps.
3. The fire water tank will overflow on either a power failure or air compressor failure. The level control valve fails open in either case. Shut off water to the tank at the post indicator valve at the base of the tank. If a fire occurs, the Off-Shift Supervisor or the Safety Department Manager will open this valve.

STEAM

The plant operates three 75,000 lb/hr package boilers. Typically, only two boilers run at any given time. This operation is manned at all times. If a single boiler fails, the stand-by boiler can be brought on-line with little interruption to the plant. If steam supply appears to be in jeopardy (demand can't be met) or the stand-by boiler can't be started, execute the following steps:

1. Inform all units that the plant is losing steam. Steam consumption should be discontinued until full pressure is re-established.
2. If freezing temperatures are expected, units should take steps to bleed down the steam system. Condensate in the steam distribution system can freeze and cause significant damage.
3. Boiler operators have detailed procedures on troubleshooting and re-starting the boilers.

Acquiring Steam from Solutia

Steam can be acquired from Solutia, via the transfer line located on the south side of Unit 270. Arrangements must be made with Solutia. **This procedure must be executed by individuals having extensive knowledge of the steam system – water hammer may occur, which could cause serious equipment damage and possible harm to employees. Water hammer on the transfer line has been known to lift the piping out of the pipe rack.**

1. Obtain a manlift and slowly open the drain taps on either side of the master shutoff valve located over the south fence. **Hot condensate may be present – take appropriate precautions.** If steam generation is still taking place on the Ethyl side, expect steam from the north drain tap.
2. Have Solutia open their warm-up by-pass line on their master shut-off valve. Allow the line to warm until steam is flowing freely from the south drain valve. Solutia should be seeing equal pressure on both sides of their valve. **Remain in continuous radio and telephone contact with Solutia.**
3. Open the Ethyl master valve ¼ turn. Wait several minutes and repeat with an additional ¼ turn. Continue this procedure until the valve starts passing steam at a good rate (gauge by amount of steam flowing from the north drain). **If steam is introduced too rapidly, or free condensate remains in the piping, severe water hammer will occur. Water hammer has the potential to rupture the steam line, blow out valve and flange gaskets, and cause serious injury.**
4. Partially close the drain taps, but allow steam to continue to escape. Continue to slowly open the master valve. If Ethyl boilers are running, the utility operator will need to monitor the boiler pressure and make adjustments accordingly.
5. Once the valve is fully open, close the drain valves. The utility operator should continue to coordinate with Solutia.

Loss of Water

The plant receives water on two separate water mains. With the exception of 266, 267, the south cooling tower, the boilers, and the administration building, the plant can receive water from either main.

Water Loss – East/West Main

The plant will feed from the North/South main. No further action required

Water Loss – North/South Main

The units listed above will lose water supply. The plant will likely lose steam (see Loss of Steam – above).

Water Loss – Both Mains

The plant will be without firewater supply. Depending on the extent of failure, public fire hydrant mains may or may not be effected. Sauget FD should be contacted to determine if hydrant pressure is available. If so, the Sauget FD engine can be connected to the plant fire water system at the south end of the plant.

Loss of Natural Gas

Loss of Illinois Power Natural Gas

Both flares will lose sweep gas, resulting in a loss of tip combustion. Units 266, 280, 290, and 258 must be

shut down until gas can be established. The pilot plant and Unit 267 should be notified that the flares are down.

Loss of Industrial Steam Products Gas

The plant will lose all steam generating ability. Refer to the Loss of Steam procedure above.

Loss of N₂

Industrial Gas Products (IGP) supplies nitrogen to the plant, via pipeline. If IGP loses nitrogen generation capability, IGP has a liquid supply system that can be activated. If the delivery pipeline were damaged, the plant would have to make arrangements to connect a nitrogen trailer to the plant nitrogen system. Until nitrogen can be re-established, all operations must be halted.

Radioactive Source Emergencies

The Sauget plant has 4 sealed sources under IDNS specific license IL-01800-01:

Nuclide	Activity	Location	Model #	Serial #	Manufacturer
Cs-137	1200mCi	U-275	A-2102 (Gauge) SH-F2 (Holder)	75232	Ohmart 4 th Qtr. 91
Cs-137	5 mCi	U-290	(Gauge) SH-FI (Holder)	0347GK	Ohmart 4 th Qtr. 95
Cs-137	20 mCi	U-280	5201 (Gauge)	B2478	TN Technology 1 st Qtr. 95
Cd-109	5 mCi	Portable	9266 (Meter)	B606	TN Technology 4 th Qtr. 1984
Fe-55	45 mCi			LU7431 LE4235	

- ❑ Any incident (i.e. fire, earthquake, tornado, explosion) that jeopardizes the integrity of the source will require the immediate evacuation of the area around the source for a distance of at least 100 feet in Unit 275, 40 feet in Unit 280 or 40 feet in Unit 290.
- ❑ Emergency events involving a sealed source, including a source being lost or stolen, notify Radiation Safety Officers (Ed Cox or Jon Jacoby). The RSO will contact the local police department and the Illinois Department of Nuclear Safety.

In the event a fixed gauge source is damaged, the RSO will:

- (a) Evaluate the situation to determine if any individuals have been exposed to radiation. If individuals are suspected to be contaminated, care for life threatening injuries first, then notify emergency personnel and the hospital staff about possible radioactive material contamination/exposure.
- (b) Limit access to the fixed gauge until the source integrity and the surrounding area has been evaluated for radioactive material leakage/contamination. If the licensee has a radiation-monitoring instrument, measure the exposure rate around the fixed gauge to establish the safe distance to maintain the barriers (e.g., 2mR/hr or 20 mSv/hr).
- (c) As soon as possible contact the Illinois Department of Nuclear Safety. Obtain technical assistance from the Department, the fixed gauge manufacturer or other qualified specific licensee and arrange for a timely evaluation of the source integrity following an incident.
- (d) Ensure the shutter or other on-off controls are in the "off" or "closed" position. Visually inspect the fixed gauge to determine whether any damage to the source housing or shield has occurred. Do not move the fixed gauge until the extent of contamination has been determined.

Transportation Emergencies / Mutual Aid Requests Pre-plan

Form: Transportation Emergency Response Telephone Log (attached)

1. In the event a transportation emergency involving Ethyl products or a mutual aid request, communication may be received from one of the following:
 - a. Representative at the emergency site - this could be a public official, such as an EPA representative, law enforcement officer or representative for the carrier.
 - b. Distribution Operation Coordinator - Ethyl Corporation representative that is part of the Ethyl Accident Response System.
2. In the event a call is received from any of the above to the Off-Shift Supervisor, he will contact, in order, one of the following:
 - a. Daytime Emergency Coordinator (DEC)
 - b. Health, Safety and Environmental Affairs Manager
 - c. Environmental Engineer
3. Complete the *Transportation Emergency Response Telephone Log* attached to this procedure. This will be the record of events related to this incident. The DEC is responsible for initiating this paperwork
4. The above mentioned person will contact the Plant Manager to determine if a response team needs to be assembled and sent to the emergency site
5. If the incident occurs in St. Clair County, the county HAZMAT team "St. Clair Special Emergency Services" is also available to respond. Dispatch this team by dialing 9-1-1.
6. The team leader for the response team will then communicate with the emergency site on emergency procedures that will be taken and determine what Ethyl resources (persons / equipment) are needed to respond.
7. In the event it becomes necessary to send an Emergency Coordination Team to the site of a transportation emergency, Ethyl has contracted with Aero Charter Inc. at Spirit of St. Louis Airport to serve as the carrier. Aero is available at anytime with one-hour notice to fly Emergency Coordination Team members to the airport nearest the incident scene. Only the Plant Manager, or in his absence the HS&E Manager, can authorize the use of Aero Charter Inc.

Aero Charter Inc.
501 Turbine
Chesterfield, MO 63005-3630

Telephone Numbers
(636) 537-0005 (primary)
(800) 535-1445
(636) 519-1171 (Fax)

Section III – Annex 10 – Incident Specific Pre-Plans

Aero Rep: Robert Little:
On-Call: (314) 790-0182 Pager
Cell (314) 406-6385

Media Relations Pre-Plan

(Refer to Sauget Plant *Crisis Communication Plan* (CCP) for details)